

## REMARKS

### Associate Power of Attorney And Correspondence Address

A Revocation of Power of Attorney with New Power of Attorney and Change of Correspondence Address was faxed to the Patent Office on December 6, 2005 in order to comply with Item 2 of the Office Action. A copy is enclosed.

### Drawing Objection

Contrary to Item 3 of the Office Action, the Applicants point out that Reference Characters A, B, and C of Figure 9a are described at page 10, lines 7-9 of the specification. It is respectfully requested that the drawing objection in Item 3 of the Office Action be withdrawn.

### Specification Amendments

Paragraph [0002] has been amended to recite U.S. Patent No. 6,806,295 as requested in Item 4 of the Office Action.

The specification has been amended where necessary to define acronyms at their first usage as requested in Item 4 of the Office Action.

The specification has been amended where necessary to cite the non-patent literature documents as requested in Items 4 and 6 of the Office Action.

The guidance of Item 5 of the Office Action has been noted; however, the specification has not been amended at this time to include material incorporated by reference.

### Double Patenting Rejections

A terminal disclaimer is enclosed in order to overcome the double patenting rejections raised in Items 7-9 of the Office Action.

35 U.S.C. §102 and/or 35 U.S.C. § 103

Item 12 of the Office Action

Claims 1-3, 5, 7, 10 and 11 were rejected under 35 U.S.C. 102(b) or 35 U.S.C. 103(a) as being anticipated by or obvious over Hu et al., "Sol-Gel and Ultrafine Particle Formation via Dielectric Tuning of Inorganic Salt-Alcohol-Water Solutions", *Journal of Colloid and Interface Science*, 222, 20-36, 2000 ("Hu 2000").

Looking first at claim 1, there is recited a method for making amorphous spherical particles of zirconium titanate that includes the steps of preparing an aqueous solution of a zirconium salt, preparing an aqueous solution of a titanium salt and mixing said solution of zirconium salt with said solution of titanium salt into a mixed salt solution.

Turning now to Hu 2000, there is described an "investigation of nucleation and growth phenomena in isopropyl alcohol-water solutions of zirconyl chloride salt" (page 21 ¶ 2). The experimental methods in Hu 2000 do not teach or suggest mixing an aqueous solution of zirconium salt with an aqueous solution of titanium salt as recited in claim 1 to form zirconium titanate. Hu 2000 uses a single metal salt, i.e., zirconyl chloride.

At page 21 ¶1 of Hu 2000 it is stated that "monodispersed oxide ceramic powders ( $\text{ZrO}_2$  and  $\text{TiO}_2$ ) were successfully produced in isopropyl-water solutions in which inorganic salt was dissolved". However, this statement is referring to separate articles by Moon *et al.* (reference 8 in Hu 2000) and Park *et al.* (reference 9 in Hu 2000) which are discussed at paragraph [0046] of the present specification and were submitted in the IDS. In this regard, Moon et al. describe "Preparation of Monodisperse

and Spherical Zirconia Powders by Heating of Alcohol-Aqueous Salt Solutions" and Park et al. describe "Effect of Solvent on Titania Particle Formation and Morphology in Thermal Hydrolysis of  $\text{TiCl}_4$ ". These articles are therefore separately describing the production of single-metal oxide precursor particles, that is, Moon et al. describe zirconia powders and Park et al. describe titania particles.

Therefore, it is submitted that Hu 2000 fails to teach or suggest all of the limitations of claim 1 (and claims 2-11 that depend thereon). It is respectfully requested that the rejection in Item 12 of the Office Action be withdrawn.

#### Item 13 of the Office Action

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Bhattacharya *et al.* "Sol Gel Preparation, Structure and Thermal Stability of Crystalline Zirconium Titanate Microspheres", *Journal of Material Science*, 31, 267-271, 1996 ("Bhattacharya").

Looking at Bhattacharya, Method 1 and Method 2 describe the mixing of sols of titania and zirconia. A "sol" is understood by one in this technical field to be "discrete units of solid material dispersed in a liquid" (see column 5, lines 63-64 of U.S. Patent No. 6,806,295 that is incorporated by reference in the present application).

In contrast, claim 1 of the present application recites "mixing said solution of zirconium salt with said solution of titanium salt into a mixed salt solution". Inorganic salts generally ionize in solution. Thus, the salts recited in claim 1 are quite different from the sols ("discrete units of solid material dispersed in a liquid") of Bhattacharya.

Therefore, it is submitted that Bhattacharya fails to teach or suggest all of the limitations of claim 1 (and claims 2-11 that depend thereon). It is respectfully requested that the rejection in Item 13 of the Office Action be withdrawn.

#### Items 14 and 15 of the Office Action

Claim 1-7, 10 and 11 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,806,295 to Hu ("Hu '295"). Claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being obvious over Hu '295 in view of Hu, "Low-Tech Route Yields High-Tech Ceramic Nanopowders", *High-Tech Materials Alert*, February 1998 ("Hu 1998").

Attached is an Inventor's Declaration Under 37 C.F.R. § 1.132 establishing that the named inventor for U.S. Patent No. 6,806,295 B2 is the named inventor for the present application. Accordingly, U.S. Patent No. 6,806,295 is not a patent granted on an application for patent by another as required by 35 U.S.C. 102(e). Therefore, it is respectfully requested that the rejections in Items 14 and 15 of the Office Action be withdrawn.

#### Item 16 of the Office Action

Claims 8 and 9 were rejected under 35 U.S.C. 103(a) as being obvious over Hu 2000 in view of Hu 1998.

As detailed above, Hu 2000 fails to teach or suggest all of the limitations of claim 1. Hu 1998 fails to make up the deficiencies in Hu 2000 with respect to claim 1. Among other things, Hu 1998 does not teach or suggest the titanium salt recited in claim 1. Accordingly, it is respectfully requested that the rejection in Item 16 of the Office Action be withdrawn.

### Conclusion

It is submitted that the application has been placed in condition for allowance.

Favorable reconsideration is respectfully requested.

Please charge the fee for the terminal disclaimer (\$130) to deposit account 17-0055. If any other fees are needed, please charge them to deposit account 17-0055.

Respectfully submitted,

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